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ELECTROPHORETIC DISPLAY DEVICE
NIPPON MEKTRON LTD

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Abstract: PURPOSE: To suppress the generation of unequal displays and to obtain a long-life device by sticking colored fine particles to base particles having the sp. gr. smaller than the sp. gr. of a dispersion medium thereby constituting electrophoretic particles so as to have the sp. gr. equal to the sp. gr. of the dispersion medium.

CONSTITUTION: The electrophoretic particles 4 of a dispersion system 3 are so constituted as to have the sp. gr. over the entire part equal to the sp. gr. of the dispersion medium by adequately sticking the colored fine particles 6 having about $1,000 \text{ \AA}$ grain size to the outside circumference of the base particles 5 having the sp. gr. smaller than the sp. gr. of the dispersion medium to be used and about $1 \mu\text{m}$ grain size by an electrostatic attraction means or dry process thermal welding method entailing mechanical impact, etc. Benzoguanamine resin, polymethyl methacrylate resin, etc., are usable for the base particles 5 and various fine particles such as titanium oxide are usable for the colored fine particles 6. The electrophoretic particles 4 can be uniformly dispersed into the dispersion medium by such constitution of the dispersion system 3. The stable and exact display operations are thus carried out while the floating and sinking by the effect of gravity and the nonuniformity in density are adequately prohibited even after long-term use.

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